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JUL 05 2006

REMARKS**Claim Amendments.**

Upon entry of the amendments claims 1-16, 19-39, and 42-56 will be pending. Independent claims 1 and 32 have been amended to incorporate the changes discussed in the conference on June 29, 2006. Reconsideration of the present application is respectfully requested in light of the above amendments to the application and the following remarks.

**The Nedwell Reference.** The Patent Office rejected claims 1-16, 19-39, and 42-55 under 35 U.S.C. 103(a) as being unpatentable over Nedwell in view of Van Brunt et al.

In view of the amendments to Independent Claims 1 and 32 this is respectfully traversed. The amendments specify that the device or method is "to enhance circulation of blood or lymphatic fluid in a living body" and requires that the transducer or vibrational output "enhance at least one of blood or lymphatic fluid in a part of the body in the vicinity of that location."

Nedwell, Van Brunt, and even the previously cited Cady patent are all concerned with clearing mucus or other secretions from the lungs, not with enhancing circulation of blood or lymphatic fluid. The Examiner expressed concern that the vibrations used to clear secretions from the lungs in the cited art might also enhance the circulation. There is, however, no suggestion or disclosure in the cited art that the lung-secretion-clearing vibrations might also provide any long-term enhanced circulation benefits of blood and lymphatic fluids.

The Patent Office opined that "Nedwell teaches a typical frequency range of 40 to 160 Hz [and] an additional frequency sweep of 16 Hz upwards." The Patent Office then stated that "the frequency sweep from 16 Hz upward comprehends the claimed frequency sweep having frequencies less than 100 Hz. The frequency sweep from 40 to 160 Hz comprehends the claimed frequency sweep having frequencies above 100 Hz." This is traversed as being an interpretation of Nedwell based upon the teachings of the present patent application. Nedwell discloses: there is a fundamental pulmonary resonance at about 80 Hz (Col. 1, lines 56-58), and that there may be higher order resonances as well (Col. 1, lines 58-62); there is a Helmholtz resonance at a frequency of about 16 Hz (Col. 2, lines 1-6); a frequency range of 40-160 Hz is preferable (Col. 2, lines 19-22); and, alternatively, one case use frequencies of 16 Hz, or higher for a child (Col.

2, lines 22-26). Thus, read in context, Nedwell is teaching that the primary resonances involved are 16 Hz (Helmholtz) and 80 Hz (pulmonary). Nedwell teaches that the lower and upper limits of the pulmonary frequency sweep may be manually adjustable (Col. 3, lines 24-25 and 30-31). However, these must be construed in light of the disclosure, which means that the lower limit should still be in the vicinity of 40 Hz.

In addition, as shown below, Nedwell does not teach the use of two separate sweeps. Even assuming *arguendo* that Nedwell does so teach, there is no teaching in Nedwell that the lower limit to the sweep range should be as high as 100 Hz so that the upper frequency sweep is “generally having frequencies greater than approximately 100 Hz” (Claims 1 and 32). From Nedwell, the frequencies would be starting around 40 Hz, or even 16 Hz.

Further, although the Patent Office asserts that “[t]here is no unobviousness for one of ordinary skill in the art to adjust and find frequencies that are optimum for a particular patient or intended use” (Office Action, Item 7), none of the art cited (Nedwell, Van Brunt, Cady) discloses the use of frequency sweeps in the claimed ranges (Van Brunt, single sweep between 5 to 20 Hz; Nedwell, single sweep, somewhere between 40 and 160 Hz, or from 16 Hz upwards, or single sweep somewhere between 40 and 160 Hz with additional single, non-swept frequency of 16 Hz; Cady, no sweep, single frequency somewhere between 100 to 300 Hz). Reading the prior art, it is clear that the focus for sweeping is in the lower ranges. Thus, one of ordinary skill in the art would have no incentive or motivation to try sweeping two ranges, one generally below 100 Hz and one generally above 100 Hz. Rather, at best, one of ordinary skill in the art would be motivated to adjust Nedwell’s 40 to 160 Hz sweep and provide an additional frequency at around 16 Hz (Nedwell, Helmholtz) or an additional frequency at around 100 to 300 Hz (Cady). Alternatively, one of ordinary skill in the art would be motivated to adjust Nedwell’s 16 Hz upward sweep (which includes the 40 – 160 Hz sweep) and provide an additional frequency at 100 to 300 Hz (Cady). Thus, there is no motivation or suggestion to provide two sweep bands where one is generally below 100 Hz and one is generally above 100 Hz.

In addition, the Patent Office believed that Nedwell taught two different frequency sweep ranges and questioned the applicant’s interpretation of Nedwell (Office Action, Item 11).

Applicant still asserts, however, that Nedwell, fairly read, does not teach two different frequency sweep ranges as is shown below. The particular language in Nedwell is below.

“In the embodiments described above, a frequency range of 40 to 160 Hz has been mentioned in order to excite a pulmonary resonance.

Alternatively or additionally a frequency of about 16 Hz, or a range from about 16 Hz upwards may be employed in order to excite a Helmholtz resonance of the person's lungs.”

(Col. 4, lines 10-15.)

Parsing the above language yields four possibilities:

The first possibility:

(a) There is “a frequency range of 40 to 160 Hz ... to excite a pulmonary resonance”

(b)(1) “Alternatively ... a frequency of about 16 Hz”.

This first possibility is in the alternative, not the additive. That is, there is a ““a frequency range of 40 to 160 Hz”, or there is “a frequency of about 16 Hz”. Thus, in this first possibility there is only one sweep range, at most.

The second possibility:

(a) There is “a frequency range of 40 to 160 Hz ... to excite a pulmonary resonance”

(b)(1) “Alternatively ... a range from about 16 Hz upwards”.

This second possibility is also in the alternative, not the additive. That is, there is a ““a frequency range of 40 to 160 Hz”, or there is “a range from about 16 Hz upwards”. It should be noted that the range “16 Hz upwards” includes the range “40 to 160 Hz”. Thus, in this second possibility there is still only one sweep range, at most.

The third possibility:

(a) There is "a frequency range of 40 to 160 Hz ... to excite a pulmonary resonance"

(b)(1) "[A]dditionally ... a frequency of about 16 Hz".

This third possibility is in the additive. That is, there is "a frequency range of 40 to 160 Hz" and there is also "a frequency of about 16 Hz." Thus, in this third possibility there is still only one sweep range.

The fourth possibility:

(a) There is "a frequency range of 40 to 160 Hz ... to excite a pulmonary resonance"

(b)(1) "[A]dditionally ... a range from about 16 Hz upwards".

Note particularly Col. 2, lines 30-32: "In another embodiment, the apparatus further includes means to cause the frequency of the vibrations to be swept over a particular range", not rangeS. (emphasis added.) Also, as noted above, the sweep range "16 Hz upwards" includes the sweep range "40 to 160 Hz". This fourth possibility, fairly read, thus means that the frequency range is expanded to be from 16 Hz upwards (to include, e.g., 40 to 160 Hz). It does not suggest that there should be two separate sweep frequency ranges. Therefore, even in this fourth possibility, there is still only one sweep range, it just has an expanded range.

Therefore, applicant continues to assert that Nedwell only teaches a single sweep range, whether it be from "40 to 160 Hz" or "16 Hz upwards".

**The Van Brunt Reference.** Regarding Van Brunt, Van Brunt only discloses operation in the 5-20 Hz range, (Van Brunt, Page 3, Paragraph 0050), not "any number or range of frequencies", not operation even above 20 Hz, and certainly and clearly not operation above 100 Hz. Further, Van Brunt only discloses stepping or sweeping though a single frequency band, whether it be a "low", "normal", or "high" frequency band (Page 3, Paragraphs 0051-0052; also see Fig. 4). Van Brunt neither suggests nor discloses two different frequency sweep bands.

**No Suggestion Or Reason Stated For Two Sweep Ranges.** As shown above, and in the previous response, none of Nedwell, Van Brunt, or Cady suggest or disclose any reason why more than one sweep range is necessary or desirable.

**Local Effect.** Independent claims 1 and 32 have also been amended to specify that the invention is to “enhance local circulation of blood or lymphatic fluid”. It will be noted that Nedwell discloses immersing almost the entire body in a fluid (Figs. 5-8), excluding the head so that the person can continue breathing; Van Brunt discloses using a vest 12 which covers a substantial part, if not all of, the lung area; and Cady discloses smaller transducers but suggests that a plurality of them is preferred to cover both the upper and lower lung areas (Col. 4, lines 20-31.) Furthermore, read in light of the other patents (Nedwell, Van Brunt) regarding clearing of mucus and lung secretions, one would be inclined to use more transducers, so as to clear the entire lung area, rather than just a single transducer to clear only an isolated area. Therefore, the cited art suggests that the entire lung or chest area should be treated at once to clear mucus and secretions from the lungs, rather than a local area being treated to improve local blood and lymph circulation.

**Allowability.** As none of the art suggests or discloses that more than one sweep range is desirable, and as none of the art provides any motivation for conducting more than one sweep range, and as none of the art provides any motivation, suggestion or teaching of long-term benefit to blood and/or lymphatic fluid circulation, it is again respectfully submitted that independent claims 1 and 32, and therefore all the dependent claims, are patentable over Nedwell, Van Brunt, and Cady.

#### **Dependent Claims.**

With respect to the dependent claims 2-16, 19-31, 33-40, and 42-56, the Patent Office merely stated that “Applicant’s dependent claims recite a myriad of different combinations of single and multiple frequency sweeps. ... Finding a particular combination of frequencies or amplitudes is one of the things that one skilled in the art would play around with to find the optimum results.” (Office Action, Items 7-9.)

However, there is no teaching or motivation to do so. Cady does not sweep, and Van Brunt and Nedwell only suggest a single sweep range. Even assuming arguendo that Nedwell discloses two sweep ranges, there is no motivation or teaching to provide the different combinations of sweep types and arrangements claimed. Although it is not disputed that one of ordinary skill in the art certainly could experiment to determine particular combinations there is no motivation, based on the cited art, to do so. There is certainly no motivation to try a downward sweep (claims 22, 45, 55, 56). There is also certainly no motivation to try simultaneous sweeps (claims 23, 24, 46, 47). Nor is there any motivation to try more of one sweep than of another sweep (claims 3, 4, 34, 35, 55, 56), or to do anything other than alternate sweeps (claims 5 and 36: multiple of one type before multiple of another type). And there is clearly no teaching, motivation, or suggestion to go above 300 Hz (Cady) (claims 55 and 56: 5.5 kHz).

Therefore, for the reasons stated above, and also for the reasons stated in the previous amendment and response, which reasons are restated by reference herein, it is respectfully submitted that the dependent claims are further patentable over Nedwell, Van Brunt, and Cady.

**REQUEST FOR WITHDRAWAL OF FINALITY OF PREVIOUS OFFICE ACTION.**

The Patent Office indicated that the Office Action dated May 17, 2006, was a Final Office Action and that "Applicant(s) amendment necessitated the new ground(s) of rejection presented in this Office Action." However, it should be noted, as was pointed out in the previous response, that the amendment to the two independent claims 1 and 32 merely brought forth the limitations on the lower and higher frequency sweep frequencies previously stated in dependent claims 40 and 41, now canceled, but reprinted below for reference.

40. The process of claim 32 wherein the lower-frequency sweep has a frequency less than approximately 100 Hz.

41. The process of claim 32 wherein the higher-frequency sweep has a frequency greater than approximately 100 Hz.

Therefore, it is respectfully requested that the finality of the Office Action dated May 17, 2006 be withdrawn so that the Office Action dated May 17, 2006 is a non-final Office Action.

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Application No. 10/761,726

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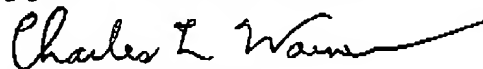
RECORD OF TELEPHONE CONFERENCE

On June 29, 2006, the undersigned and the Examiner discussed the nature of the invention, the nature of the cited prior art, and possible amendments to the independent claims. The Examiner indicated that the amendments might confer patentability but needed to consider them in writing and also to consider whether the amendments raised any issues that would require a new search. The undersigned thanks the Examiner for taking the time to discuss this case.

CONCLUSION

It is believed that the above is completely responsive to the Office Action and that the claims, as amended, are now in condition for allowance, and Applicants respectfully request the same. If the Examiner should have any questions, or suggestions which will put this application in condition for allowance, a telephone call to the undersigned is respectfully requested.

Respectfully submitted,  
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